

Evaluation Of Sludge From Coagulation Of Palm Oil Mill Effluent With Chitosan Based Coagulant

Mohd Yuhyi Mohd Tadza, Nur Ain Farhana Ghani, Hazwani Hawa Mohammad Sobani

Faculty of Civil Engineering & Earth Resource, University Malaysia Pahang, 26300 Lebuhraya

Tun Razak, Kuantan Pahang

ABSTRACT

Palm Oil Mill Effluent (POME) have been declared as one of the major source of environmental pollution due to indiscriminate discharge into watercourses. POME contained appreciable amount of nutrients that is beneficial to plants. However, direct usage of POME would results in toxification of plants and crops. Extraction of these nutrients would be beneficial for agricultural purposes. In this study, the sludge obtained from coagulation and flocculation of POME using chitosan based coagulant was evaluated. In addition, the fertility of the sludge was also evaluated by a set of pot trial tests using *Scindapsus Aureus*. Comparison was made using commercially available fertilizer. It was found out that macronutrients such as Nitrogen (N) and Phosphorus (P) initially contained within POME were removed, however the removal of Potassium (K) was found to be less effective. Interestingly, pot trial test results indicated that *Scindapsus Aureus* grows better using chitosan based sludge as compared to commercially available fertilizer.

KEYWORDS: Palm oil mill effluent, Chitosan, Ferric Chloride